Area-Based Audit of Forest Planning and Practices and Enforcement of the Forest Practices Code in a Portion of the Quesnel Forest District

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Report from the Board

A. Report from the Board

This is the Board's report on the area-based audit of licensees' compliance with, and government's enforcement of, the *Forest Practices Code of British Columbia Act* and related regulations (the Code), relevant to the forest planning and practices in the Pantage and Snaking draft landscape units within the Quesnel Forest District (see map on page A-3). The higher level plan requirements of the Cariboo Chilcotin Land Use Plan that are relevant to operational planning and practices were part of this audit.

The audit examined field activities and obligations of the following parties, for the period of May 1, 2001, to June 1, 2002, to determine compliance with Code requirements:

- Slocan Forest Products Ltd.
- Tolko Industries Ltd.
- West Fraser Mills Ltd.
- Quesnel Forest District - Small Business Forest Enterprise Program (SBFEP)
- Quesnel Forest District - district manager obligations
- four woodlot tenures

The 12 range tenures in the area were not included in the audit, as it was too early in the year for range activities to be examined in a meaningful way.

The audit also examined the appropriateness of government's enforcement of the Code, including planning, management direction and operational activities related to enforcement, for the period May 1, 2001, to June 1, 2002. The activities of two Code enforcement agencies, the Ministry of Forests (MOF) and the Ministry of Water, Land and Air Protection (MWLAP), were audited. There were no activities within the audit for which the Ministry of Energy and Mines had enforcement responsibilities.

The reports from the auditor (Part C and D) provide further details on the audit location, the scope of the audits and the audit findings. The reports from the auditor in Part C are based on the audit procedures described in Part B.[i]

The Board considered the reports from the auditor along with supporting audit evidence. Based on this information, the Board affirms the audit reports and provides the following comment.

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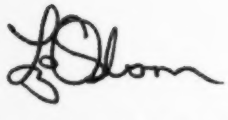
[i] Part B of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

Overall, the Board is encouraged by the high level of compliance with the Code by licensees in the audit area. The major licensees, SBFEP operations and woodlot licence holders were found to be in compliance with the Code, as well as stand-level higher level plan requirements, in all significant respects. Timber harvesting and associated activities in the audit area were dominated by management considerations for the mountain pine beetle epidemic. In light of the additional requirements for licensees caused by the insect infestation, the level of compliance the auditors found is commendable.

The Board also finds that MOF's enforcement of the Code was, in most instances, appropriate. The audit did detect two gaps in the Quesnel Forest District compliance and enforcement (C&E) procedures that were described as significant weaknesses. These involve inspections of range activities and of district manager responsibilities. While no harm to the environment occurred during the audit period due to these gaps, the Board is concerned about the lack of fairness and consistency in application of the Code, and the potential for non-compliance to go undetected and result in environmental harm.

The audit found that range activities had not been inspected, nor was there clear separation of range program management from C&E activities. As part of the MOF reorganization of C&E subsequent to the audit, the Board anticipates these shortcomings will be addressed. Similarly, with the current MOF reorganization of the SBFEP as the new BC Timber Sales Program, inspections of many of the district manager's responsibilities are expected to no longer be overlooked. The Board suggests MOF also ensure that the district manager obligations that remain as district office responsibilities are inspected. The Board will assess how well these issues are resolved in future audits, following the changes to MOF's structure and C&E program.

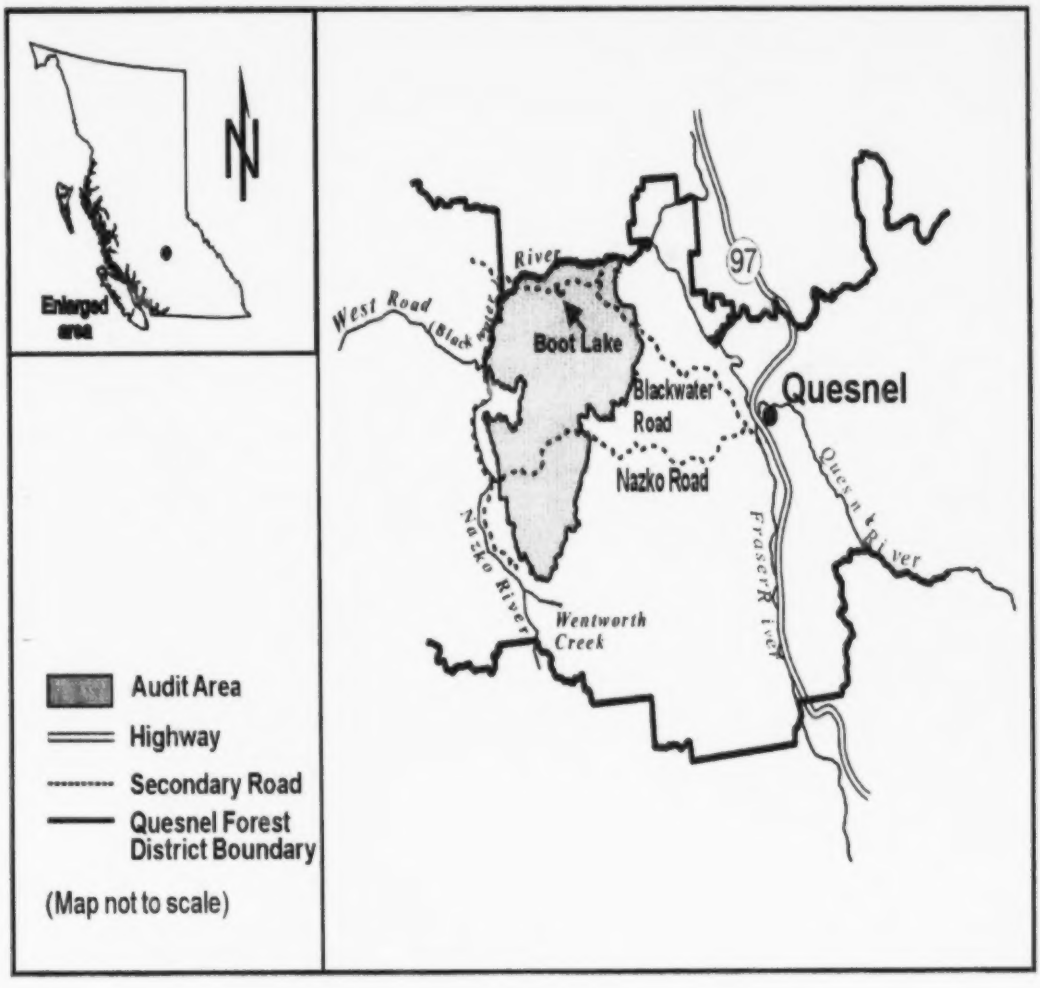
Finally, in the audit of MWLAP enforcement, the auditor found that the ministry was not actively involved in Code enforcement within the audit area. MWLAP had not completed any compliance inspections and had not implemented effective joint C&E processes with MOF. This conclusion is similar to findings in previous enforcement audits and is of concern to the Board. In the Board's view, MWLAP is not yet fulfilling its stated and legislated intent to be involved in Code enforcement. The Board will continue to assess MWLAP's enforcement role in subsequent audits.



Liz Osborn, MRM, MSc
A/Chair, Forest Practices Board

May 12, 2003

Quesnel Forest District Area Audit Map



Forest Practices Board Compliance Audit Process

B. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders for compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board has the authority to conduct these periodic independent audits under section 176 of the *Forest Practices Code of British Columbia Act*. Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice regulated by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting an Area-Based Audit

Once the Board selects the area to be audited, the audit period and the staff and resources required to conduct the audit are determined. Board staff meet with the parties in the area being audited to discuss the logistics of the audit before commencing the work. The parties involved could be forest companies, oil and gas companies, woodlot owners or ranchers.

All the activities carried out during the period subject to audit are identified; for example, harvesting or replanting sites, and constructing or deactivating road sections. The items that make up each forest or range activity are referred to as a "population." For example, all sites harvested by a specific licensee form the "timber harvesting population" for that licensee. All road sections constructed by a specific licensee form the "road construction population" for that licensee. The populations are then sub-divided based on factors such as characteristics of the sites and potential severity of the consequences of non-compliance on the sites.

For each population of each licensee, the auditors choose the most efficient means of obtaining information to conclude whether there is compliance with the Code. For efficiency, auditors usually rely upon sampling to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest or range practices within each population have different characteristics, such as the type of terrain, type of yarding or grazing levels. Each population for each licensee is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from the air using helicopters and ground procedures, such as measuring specific features like road or riparian reserve zone width. The audit teams generally spend one to three weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance, and assessing the significance of non-compliance, requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to determine the audit results. The audit team, composed of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria, including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is or has the potential to be significant, and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred, or is beginning to occur, to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy and Mines, and Water, Land and Air Protection.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for submission to the Board. The parties being audited are given a draft of their portion of the report before it is submitted to the Board so that the party is fully aware of the findings. The auditee is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines if the audit findings may adversely affect any party or person. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow parties that may potentially be adversely affected to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally decide on written representations, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews the report from the auditor for each auditee and the representations from parties that may potentially be adversely affected before preparing its final report, which includes the Board's conclusions and, if appropriate, recommendations.

If the Board's conclusions or recommendations result in newly adversely-affected parties or persons, additional offers of representations would be required.

Once the representations have been completed, the reports are finalized and released: first to the respective auditees and then to the public and government.

Reports from the Auditor – Compliance Audits

C. Reports from the Auditor – Compliance Audits

1.0 Introduction

As part of the Forest Practices Board's 2002 audit program, an area within the Quesnel Forest District was randomly selected as the subject of an area-based compliance audit. The audit area encompasses the Pantage and Snaking draft landscape units in the central portion of the forest district. The area extends south from the district boundary near the Blackwater River and Boot Lake, east of the Nazko River, to Wentworth Creek. It includes the areas draining west into the Nazko River and north into the Blackwater River. The area covers approximately eight percent of the forest district (see map on page A-3).

Licensees with active operations in the audit area were:

- Slocan Forest Products Ltd. (FL A20011 and FL A57712)
- Tolko Industries Ltd. (FL A20010 and FL A57713)
- West Fraser Mills Ltd. (FL A20005)
- Quesnel Forest District Small Business Forest Enterprise Program and district manager obligations
- Woodlots W1413, W1517, W1518 and W1522
- 12 holders of range tenures

The audit area has generally flat and rolling terrain with poorly defined drainages, except for main river and creek channels. There has been a relatively high level of harvesting activity within the audit area over the last several years, compared with some other areas in the district, due to high levels of mountain pine beetle (MPB) infestation. The MPB epidemic in the region has driven the selection of harvest blocks in the area, and harvesting is focused on infested stands of timber as a first priority to reduce the spread and recover otherwise lost timber resources. Susceptible stands are largely comprised of even-aged lodgepole pine over 80 years of age. Most of the infestation in the Cariboo Forest Region lies in the Quesnel Forest District.

In response to the extensive losses due to the MPB infestation within the Quesnel Timber Supply Area (TSA), in June 2001, the chief forester temporarily increased the allowable annual harvest for the TSA[i] by approximately 900,000 cubic metres, following a timber supply review.

Harvesting capability in the Quesnel TSA is currently fully utilized and will increase from an annual harvest rate of approximately 2.35 million cubic metres to 3.24 million. The uplift of the annual harvest rate is expected to be fully implemented during the next year.

Harvesting and road building is done mainly by contractors on all the licences. Harvest systems are almost entirely ground based, using the roadsides for landings. The majority of areas are logged in winter/snow pack conditions.

Land use plan status

The audit area falls under the Cariboo Chilcotin Land Use Plan (CCLUP), parts of which were declared a higher level plan[ii] on January 23, 1996. The audit area is located within the Nazko and Batnuni enhanced resource development zones and the Lower Blackwater special resource development zone.

Forest development is required to be consistent with aspects of the CCLUP that have been declared higher level plans.

Range

The activities on the range tenures were not audited, because the audit coincided with the cattle turn-out period, which is too early in the year for the activities to be usefully examined.

2.0 Licensee Reports

2.1 Slocan Forest Products Ltd. – FL A20011 and FL A57712

2.1.1 Scope

The audit examined the activities of Slocan Forest Products Ltd. (Slocan) in the areas of operational planning (including forest development plans[iii] and silviculture prescriptions[iv]); timber harvesting; silviculture; fire protection; and road construction, maintenance and deactivation. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code). All activities, planning and obligations for the period May 1, 2001, to June 1, 2002, were included in the scope of the audit.

Slocan's activities and obligations in the audit area during the audit period were:

- harvesting on 15 cutblocks
- construction of 9 road sections totalling 19.2 kilometres, and 1 new bridge
- deactivation of 64 road sections totalling approximately 46 kilometres
- maintenance of 7 bridges and approximately 150 kilometres of road, involving activities such as road surfacing and the cleaning of culverts and ditches
- silviculture activities, such as site preparation, planting and brushing, on 57 cutblocks, regeneration obligations on 4 cutblocks and free-growing obligations on 3 cutblocks
- fire-protection planning and infrastructure

The activities carried out by Slocan during the audit period were approved in the 1999-2003 and 2002-2006 forest development plans for FL A20011, and the 2001-2005 and 2002-2006 plans for FL A57712. In addition, a total of 12 silviculture prescriptions were approved but not harvested during the audit period.

The findings section describes the results of the audit. The Board's *Compliance Audit Reference Manual, Version 5.1, May 2002,* sets out the standards and procedures that were used for the audit.

2.1.2 Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following practices and obligations:

- harvesting practices on 7 cutblocks
- construction of 7 road sections totalling 9.2 kilometres
- deactivation of 41 road sections totalling approximately 31 kilometres
- maintenance of 5 bridges and approximately 53 kilometres of road
- silviculture activities, including site preparation, planting and brushing, on 9 cutblocks, regeneration obligations on 2 cutblocks and free-growing obligations on 3 cutblocks

The audit also examined the 2002-2006 forest development plan for each licence, including consistency with CCLUP higher level plan objectives. Only those portions of the forest development plans that apply to the audit area were examined.

It was not possible to examine Slocan's compliance with Code requirements for firefighting tools and equipment in the field because forest operations were seasonally curtailed during the field audit. Slocan's fire-preparedness plans and central fire tool cache were examined.

Findings

The audit found that the operational planning; timber harvesting; road construction, maintenance and deactivation; and silviculture activities of Slocan in the audit area complied, in all significant respects, with Code requirements.

As stated above, the audit could not examine Slocan's fire tools and equipment in the field. However, Slocan's fire-preparedness plans and central fire tool cache were in compliance, in all significant respects, with Code requirements.

2.1.3 Opinion

In my opinion, the operational planning; timber harvesting; road construction, maintenance, and deactivation; silviculture; and fire-preparedness planning activities carried out by Slocan Forest Products Ltd. in the audit area on forest licences A20011 and A57712, from May 1, 2001, to June 1, 2002, were in compliance, in all significant respects, with the requirements of the Code as of June 2002. No opinion is provided regarding firefighting tools and equipment in the field.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2.1.1 and 2.1.2 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with the Code.

Jon Davies, CA
Auditor of Record
Victoria, British Columbia
January 31, 2003

2.2 Tolko Industries Ltd. – FL A20010 and FL A57713

2.2.1 Scope

The audit examined the activities of Tolko Industries Ltd., (Tolko) in the areas of operational planning (including forest development plans and silviculture prescriptions); timber harvesting; silviculture; fire protection; and road construction, maintenance and deactivation. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code). All activities, planning and obligations for the period May 1, 2001, to June 1, 2002, were included in the scope of the audit.

Tolko's activities and obligations in the audit area during the audit period were:

- harvesting on 4 cutblocks
- construction of 3 metal arch culverts (major drainage structures)
- construction and temporary deactivation of 5 road sections totalling 16.6 kilometres
- maintenance of 1 bridge and 1 major culvert and approximately 181 kilometres of road, involving activities such as road surfacing and the cleaning of culverts and ditches
- silviculture activities, such as site preparation, planting and brushing on 20 cutblocks, regeneration obligations on 12 cutblocks, and free-growing obligations on 2 cutblocks
- fire-protection planning and infrastructure

The activities carried out by Tolko during the audit period were approved in the 1999-2003 and 2002-2006 forest development plans for FL A20010, and the 1998-2003 and 2002-2006 plans for FL A57713. In addition, a total of 9 silviculture prescriptions were approved but not harvested during the audit period.

The findings section describes the results of the audit. The Board's *Compliance Audit Reference Manual, Version 5.1, May 2002,* sets out the standards and procedures that were used for the audit.

2.2.2 Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following activities and obligations:

- harvesting practices on all 4 cutblocks
- construction of 3 metal arch culverts (major drainage structures)
- construction and deactivation of 5 road sections totalling 16.6 kilometres

- maintenance of 1 bridge, 1 major culvert and approximately 100 kilometres of road
- silviculture activities, including site preparation and planting, on 3 cutblocks, regeneration obligations on 3 cutblocks and free-growing obligations on 2 cutblocks

The audit also examined the 2002-2006 forest development plan for each licence, including consistency with CCLUP higher level plan objectives. Only those portions of the forest development plans that apply to the audit area were examined.

It was not possible to examine Tolko's compliance with Code requirements for firefighting tools and equipment in the field because forest operations were seasonally curtailed during the field audit. Tolko's fire-preparedness plans were examined.

Findings

The audit found that the operational planning; timber harvesting; road construction, maintenance and deactivation; and silviculture activities of Tolko in the audit area complied, in all significant respects, with Code requirements.

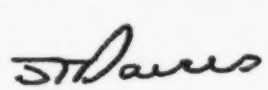
As stated above, the audit could not examine Tolko's fire tools and equipment in the field. However, Tolko's fire-preparedness plans were in compliance, in all significant respects, with Code requirements.

2.2.3 Opinion

In my opinion, the operational planning; timber harvesting; road construction, maintenance, and deactivation; silviculture; and fire-preparedness planning activities carried out by Tolko Industries Ltd. in the audit area on forest licences A20010 and A57713, from May 1, 2001, to June 1, 2002, were in compliance, in all significant respects, with the requirements of the Code as of June 2002. No opinion is provided regarding firefighting tools and equipment in the field.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2.2.1 and 2.2.2 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with the Code.



Jon Davies, CA
Auditor of Record
Victoria, British Columbia
January 31, 2003

2.3 West Fraser Mills Ltd – FL A20005

2.3.1 Scope

The audit examined the activities of West Fraser Mills Ltd. (West Fraser) in the areas of operational planning (including forest development plans and silviculture prescriptions); timber harvesting; silviculture; fire protection; and road construction, maintenance and deactivation. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code). All activities, planning and obligations for the period May 1, 2001,to June 1, 2002, were included in the scope of the audit.

West Fraser's activities and obligations in the audit area during the audit period were:

- harvesting on 29 cutblocks
- construction of 20 road sections totalling 8.2 kilometres
- maintenance of 2 bridges and approximately 351 kilometres of road, involving activities such as road surfacing and the cleaning of culverts and ditches
- deactivation of 3 road sections totalling 1.4 kilometres
- silviculture activities, such as site preparation, planting and brushing, on 85 cutblocks, regeneration obligations on 5 cutblocks, and free-growing obligations on 6 cutblocks
- fire-protection planning and infrastructure

The activities carried out by West Fraser during the audit period were approved in the 1999-2003 and 2002-2006 forest development plans. In addition, a total of 17 silviculture prescriptions were approved but not harvested during the period.

The findings section describes the results of the audit. The Board's *Compliance Audit Reference Manual, Version 5.1, May 2002,* sets out the standards and procedures that were used for the audit.

2.3.2 Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following activities and obligations:

- harvesting practices on 14 cutblocks
- construction of 9 road sections totalling 3.6 kilometres
- maintenance of 2 bridges and approximately 44 kilometres of road
- deactivation of 2 road sections totalling 0.8 kilometres

- silviculture activities, including site preparation, planting and brushing, on 12 cutblocks, regeneration obligations on 2 cutblocks, and free-growing obligations on 2 cutblocks

The audit also examined the 2002-2006 forest development plan, including consistency with CCLUP higher level plan objectives. Only those portions of the plan that apply to the audit area were examined.

It was not possible to examine West Fraser's compliance with Code requirements for firefighting tools and equipment in the field because forest operations were seasonally curtailed during the field audit. West Fraser's fire-preparedness plans and central fire tool cache were examined.

Findings

The audit found that the operational planning; timber harvesting; road construction, maintenance and deactivation; and silviculture activities of West Fraser in the audit area complied, in all significant respects, with Code requirements.

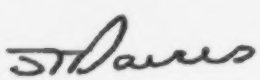
As stated above, the audit could not examine West Fraser's fire tools and equipment in the field. However, West Fraser's fire-preparedness plans and central fire tool cache were in compliance, in all significant respects, with Code requirements.

2.3.3 Opinion

In my opinion, the operational planning; timber harvesting; road construction, maintenance, and deactivation; silviculture; and fire-preparedness planning activities carried out by West Fraser Mills Ltd. in the audit area on forest licence A20005, from May 1, 2001, to June 1, 2002, were in compliance, in all significant respects, with the requirements of the Code as of June 2002. No opinion is provided regarding firefighting tools and equipment in the field.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2.3.1 and 2.3.2 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with the Code.



Jon Davies, CA
Auditor of Record
Victoria, British Columbia
January 31, 2003

2.4 Quesnel Forest District

2.4.1 Scope

The audit examined government's activities and obligations under the Code in the areas of operational planning (including forest development plans and silviculture prescriptions); timber harvesting; silviculture; fire protection; and road construction, maintenance and deactivation. These activities and obligations are the responsibility of the Small Business Forest Enterprise Program (SBFEP) and the district manager and were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations. All activities, planning and obligations for the period May 1, 2001, to June 1, 2002, were included in the scope of the audit.

The activities and obligations in the audit area during the audit period were:

- harvesting on 13 cutblocks
- construction of 15 sections of road totalling 10 kilometres, and deactivation of 2 sections totalling 0.8 kilometres
- maintenance of 7 bridges and approximately 51 kilometres of road, involving activities such as road surfacing and the cleaning of culverts and ditches
- silviculture activities, such as site preparation and planting on 10 cutblocks and regeneration obligations on 3 cutblocks
- fire-protection planning and infrastructure

The activities carried out by the Quesnel SBFEP during the audit period were approved in the 1999-2003 and 2002-2006 forest development plans. In addition, a total of 12 silviculture prescriptions were approved but not harvested during the period.

The findings section describes the results of the audit. The Board's *Compliance Audit Reference Manual, Version 5.1, May 2002,* sets out the standards and procedures that were used for the audit.

2.4.2 Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using a helicopter. Because of the small population sizes, all or most of the items within each activity were audited. The audit examined:

- harvesting of 4 cutblocks
- construction of 4 road sections totalling 1.7 kilometres

- maintenance of 7.3 kilometres of road, involving activities such as road surfacing and cleaning culverts and ditches
- planting on 2 cutblocks
- regeneration obligations for 1 cutblock
- protection activities including fire-preparedness planning, fuel management and hazard abatement

The audit also examined the 2001–2005 forest development plan for compliance with the Code, including consistency between the plan and objectives in designated higher level plans. Only the portions of the forest development plan that applied to the audit area were examined.

It was not possible to examine the SBFEP's compliance with Code requirements for firefighting tools and equipment in the field because forest operations were seasonally curtailed during the field audit. The fire-preparedness plans for the forest district and timber sale licence operations were examined.

Findings

The audit found that the operational planning; timber harvesting; road construction, maintenance and deactivation; and silviculture activities of the Quesnel Forest District in the audit area complied, in all significant respects, with Code requirements.

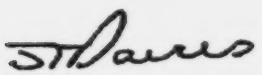
As stated above, the audit could not examine SBFEP operators' fire tools and equipment in the field. However, the district's fire-preparedness plans were in compliance, in all significant respects, with Code requirements.

2.4.3 Opinion

In my opinion, the operational planning; timber harvesting; road construction, maintenance, and deactivation; silviculture; and fire-preparedness planning activities carried out by the Quesnel Forest District in the audit area, from May 1, 2001 to June 1, 2002 were in compliance, in all significant respects, with the requirements of the Code as of June 2002. No opinion is provided regarding firefighting tools and equipment in the field.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2.4.1 and 2.4.2 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with the Code.



Jon Davies, CA
Auditor of Record
Victoria, British Columbia
January 31, 2003

3.0 Other Licences

3.1 Woodlots – W1413, W1517, W1518 & W1522

3.1.1 Scope

The four woodlots in the audit area are in close proximity to one another, and are located off the Blackwater Main public road, approximately 50 kilometres from Quesnel in the general vicinity of Pantage Lake. The audit examined the activities of the four woodlots in the areas of operational planning (including forest development plans and site plans); timber harvesting; silviculture; and road construction, maintenance and deactivation.

These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code). All activities, planning and obligations for the period May 1, 2001, to June 1, 2002, were included in the scope of the audit.

The woodlot activities and obligations in the audit area during the audit period were, in aggregate:

- harvesting on 53 cutblocks
- construction of 6 road sections totalling 2.4 kilometres
- maintenance of approximately 43 kilometres of road, involving activities such as road surfacing and the cleaning of culverts and ditches
- silviculture activities, such as site preparation, planting and brushing, on 40 cutblocks and regeneration obligations on 12 cutblocks
- operational planning
- fire protection and infrastructure

Each of the woodlots had a high level of harvesting activity, compared to woodlots in other parts of the province, in response to the mountain pine beetle epidemic in the forest district. Harvesting is focused on infested areas in an attempt to slow the spread of the beetle and recover damaged timber.

The findings section describes the results of the audit. The Board's *Compliance Audit Reference Manual, Version 5.1, May 2002,* sets out the standards and procedures that were used for the audit.

3.1.2 Findings

Planning and practices examined

The audit work on selected roads and cutblocks at each woodlot included ground-based procedures and assessments. The audit examined the following activities and obligations:

- harvesting practices on 25 cutblocks
- construction of 6 road sections totalling 2.4 kilometres
- maintenance of approximately 29 kilometres of road
- silviculture activities, including site preparation and planting, on 22 cutblocks and regeneration obligations on 7 cutblocks

The audit also examined the current forest development plans for each woodlot, including consistency with CCLUP higher level plan objectives.

It was not possible to examine the woodlot licensees' compliance with Code requirements for firefighting tools and equipment in the field because forest operations were seasonally curtailed during the field audit.

Findings

The audit found that the operational planning; timber harvesting; road construction and maintenance; and silviculture activities of the four woodlots in the audit area complied, in all significant respects, with Code requirements.

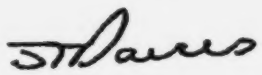
As stated above, the audit could not examine the woodlot licensees' fire tools and equipment in the field.

3.1.3 Opinion

In my opinion, the operational planning; timber harvesting; road construction and maintenance; and silviculture activities carried out by the woodlot licensees on woodlot licences W1413, W1517, W1518 and W1522 in the audit area, from May 1, 2001, to June 1, 2002, were in compliance, in all significant respects, with the requirements of the Code as of June 2002. No opinion is provided regarding firefighting tools and equipment in the field.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 3.1.1 and 3.1.2 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with the Code.



Jon Davies, CA
Auditor of Record
Victoria, British Columbia
January 31, 2003

4.0 Mountain Pine Beetle Epidemic

The audit area is a small part of the Quesnel TSA, which forms part of a vast area in central BC that is currently infested with mountain pine beetle.

The mountain pine beetle is widely considered to be the most damaging of all the insects that attack lodgepole pine in western Canada. It kills mature trees by boring through the bark, mining the phloem—the area between the bark and the inner wood of a tree—and interrupting the flow of nutrients up the tree stem.

The Quesnel TSA contains a large proportion of forest stands aged 80 years or older, the majority of which are pine forests and are highly susceptible to attack by the mountain pine beetle. Due to the abundant host material and a series of mild winters that have failed to kill the beetle larvae, the infestation has spread rapidly over the past ten years to reach epidemic proportions.

In the TSA, the mapped area of "red attack"[v] has grown from an estimated 33 hectares in 1991 to over 24,400 in 2000, to 81,000 in 2001 and to 369,000 hectares in 2002. The infestation now threatens most of the mature[vi] and near-mature lodgepole pine stands in the TSA—85 percent of the TSA's merchantable timber supply. The audit area is a small part (121,000 hectares) of the TSA's total 1.6 million hectares.

This catastrophic beetle infestation will have a large impact on the livelihood of Quesnel and surrounding communities. In the short term, there will be increased harvesting activity, markets permitting, to recover the vast quantity of infected timber. In the medium term, the economic prospects for Quesnel are less clear.

The management strategies potentially applied to a beetle infestation range from the highly active strategies of prevention and suppression, aimed at reducing future levels of infestation, to salvage, which is applied where management efforts are expected to be ineffective in substantially reducing the beetle population and subsequent levels of damage, but dead timber can be salvaged. The salvage strategy is in place in the Quesnel TSA because of the very large proportion of the area under attack. To accommodate the need for increased salvage, the chief forester increased the AAC[vii] in 2001 by 908,000 cubic metres to 3.24 million cubic metres.

The audit scope included consideration of those aspects of the forest licensees' and district manager's forest health responsibilities that are addressed by the Code. However, the Code does not include many requirements that address forest health, including beetle management.

The Code requires that licensees evaluate the occurrence of forest health factors in their operational planning. The Code also requires that the district manager, and the designated environmental official for those plans in community watersheds or special management zones, in their approval of operational plans, consider whether the plans will adequately manage and conserve the forest resources, such as wildlife, biodiversity and recreational values.

Our examination found that licensees performed sufficient evaluation of the beetle infestations in their areas, and that the district manager, and designated environmental official for those parts of the area in the Blackwater special management zone, adequately considered the impacts of the harvesting on the forest resources. Also, substantially all timber harvesting was directed at areas infested by mountain pine beetle.

Because of the scale of the epidemic, timber harvesting has shifted from a control-oriented strategy to one focusing on minimizing timber losses through salvage. At the same time, attention is devoted to preserving areas of key biodiversity values, such as riparian areas, even though in many cases they are also severely infested.

[i] The TSA harvest volume does not include the volume from tree farm licences and woodlots within the TSA.

[ii] **Higher Level Plan**

A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail, or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.

[iii] **Forest Development Plan**

A forest development plan is an operational plan that provides the public and government agencies with information about the location of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources. It must also be consistent with any higher level plans. Site-specific plans are required to be consistent with the forest development plan.

[iv] **Silviculture Prescription**

A silviculture prescription is a site-specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values, including biological diversity, and produce a free-growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.

[v] Red attack means trees that were attacked in the previous year whose foliage has now turned red.

[vi] Lodgepole pine is generally considered to be mature at 60 years.

[vii] The allowable annual cut (AAC) is determined by the chief forester on a periodic basis, based on consideration of information including technical forestry reports and public input regarding government's social and economic goals.

Report from the Auditor – Enforcement Audit

D. Report from the Auditor – Enforcement Audit

1.0 Introduction

As a part of its 2002 audit program, the Forest Practices Board selected a portion of the Quesnel Forest District for audit. The area-based audit examined the activities of all parties with responsibilities under the *Forest Practices Code of British Columbia Act* and regulations (the Code), including forest practices conducted by forest and range tenure holders and government, and government Code enforcement activities.

This report describes the audit of government's enforcement of the Code. Enforcement activities examined include tracking, inspecting, and reporting on licensees' forest operations and taking action, where necessary, to address non-compliance with the Code.

The Quesnel Forest District was selected randomly from the population of five districts in the Cariboo Forest Region. An area in the western part of the district, consisting of the Pantage and Snaking draft landscape units, was selected randomly from nine candidate areas within the district that contained sufficient levels of forest activities for audit.

Section 176(b) of the *Forest Practices Code of British Columbia Act* (the Act) mandates the Board to carry out periodic independent audits of the appropriateness of government enforcement of the Code. Three ministries have authority for enforcement—the ministries of Forests (MOF); Water, Land and Air Protection (MWLAP); and Energy and Mines. MWLAP has responsibility for Code compliance and enforcement functions formerly carried out by the Ministry of Environment, Lands & Parks.

The Quesnel Forest District encompasses approximately 1.6 million hectares. The audit area, consisting of the Pantage and Snaking draft landscape units, encompasses approximately 121,000 hectares, or about eight percent of the district. It extends south from the forest district's northern boundary near the Blackwater River and Boot Lake, east of the Nazko River, to Wentworth Creek, and includes the areas draining west into the Nazko River and north into the Blackwater River (see attached map). The audit area has generally flat and rolling terrain with poorly defined drainages, except for main river and creek channels. There has been a substantial amount of forestry activity within the audit area over the last few years, compared with some other areas in the district. This is a consequence of the mountain pine beetle infestation, which is epidemic throughout the area and has driven the selection of harvest cutblocks. The harvest level in the area was approximately 425,000 cubic metres during the audit period, which is about 13 percent of the allowable annual cut in the Quesnel Timber Supply Area.

In 1996, parts of the Cariboo-Chilcotin Land Use Plan (CCLUP) were declared a higher level plan under the Code, and it applies to the audit area. Accordingly, the higher level plan provides direction to statutory decision-makers. The audit area is located within the Nazko and Batnuni enhanced resource development zones and the Lower Blackwater special resource

development zone, defined in the CCLUP. There are no landscape level plans or objectives established for the audit area.

2.0 Audit Scope and Approach

The audit examined government's planning and operational activities related to enforcement of the Code for the period May 1, 2001, to June 6, 2002.

Audit Criteria

The audit used criteria to assess three broad aspects of government enforcement: the design of the compliance and enforcement (C&E) organization and business processes; their application in practice (through sampling compliance and enforcement 'transactions' in a number of areas, such as compliance inspections); and the management framework used to direct, support, monitor and report on C&E activity.

The following main assessment criteria were used:

- Government agencies obtain, use and maintain adequate information on the forest activities subject to compliance and enforcement.
- Government agencies have an effective way of identifying risks associated with forest activities and utilizing risk in inspection planning.
- Government agencies conduct a sufficient number of inspections, in a fair, objective and effective way, and accurately record and report results.
- Investigations and determinations are carried out in all applicable situations and only when warranted. They are performed in a fair, objective and consistent way, and are accurately recorded and reported.
- Agencies establish, through operational plan approval and related processes, expectations for forest practices, which are enforceable and in accordance with the Code.
- There are established organizational structures, policies and processes that contribute to and support appropriate enforcement of the Code.
- The decisions and actions of different parts of government responsible for enforcement of the Code are appropriate and coordinated.
- Reporting systems provide adequate information on agency performance in relation to enforcement objectives.

Candidate Activities

The forest activities carried out, and obligations held, during the audit period, and therefore subject to government enforcement, were:

- harvesting of approximately 425,000 cubic metres of timber under 5 forest licences
- construction of approximately 39.7 kilometres of road
- maintenance and deactivation of numerous sections of forest roads
- licensee obligations for silviculture treatments and achievement of regenerated and free-growing stands
- fire-protection requirements during forest operations

The Ministry of Forests' compliance and enforcement activities carried out during the audit period, and therefore subject to audit, included:

- the design of the C&E organization and business processes;
- the planning, conduct, recording and reporting of C&E activity; and
- the systems and processes used to manage C&E activity.

Within the audit area, MOF staff undertook a total of 154 harvest and road inspections during the audit period, of which 98 were for major licences, 38 were for the small business forest enterprise program and 18 were for woodlot licences. MOF staff also completed four inspections of free-growing obligations on major licences. No range inspections were done.

MWLAP's approach to Code enforcement does not involve a C&E organization, a program of compliance inspections of forest activities, or systems to record and report C&E activity. Considerable reliance is placed on MOF.

The audit did not assess C&E activity by the Ministry of Energy and Mines because no mining activity involving timber removal was carried out in the area during the audit period.

Audit Work and Activities Examined

The audit work included:

- interviews with MOF and MWLAP staff
- review and evaluation of agency policies, processes and controls
- office-based examination and analysis of MOF C&E inspections that were undertaken during the audit period
- field examination of 13 selected cutblocks and roads, attended by MOF C&E staff responsible for each area

- consideration of the results of the compliance auditors' detailed field examinations of activities under forest licences, in relation to C&E activity associated with these activities

3.0 Overall Conclusions

The audit examined the C&E organization and activities of the two government agencies with Code enforcement responsibilities for the Pantage and Snaking draft landscape unit areas of the Quesnel Forest District for the period May 1, 2001, to June 6, 2002.

Ministry of Forests

The Ministry of Forests takes the lead role in Code enforcement, consistent with its primary responsibility for the administration of forestry legislation in British Columbia, including the Code.

The ministry has largely completed its framework for Code enforcement and, overall, is appropriately enforcing the Code in the audit area. The ministry has generally achieved the Board's criteria of appropriate enforcement with the exception of two areas of significant weakness noted below. The district and forest licensees within the area audited have achieved government's primary objective of Code enforcement, which is a high level of compliance with the Code. No situations of significant non-compliance were found in the compliance audit work and the few instances of non-compliance identified by C&E inspectors were relatively minor in nature. In most instances, situations of non-compliance with the Code were detected, recognized, and appropriately addressed by the district. There were not enough investigations and determinations undertaken during the audit period to evaluate the district's performance relating to these activities.

The audit identified two areas of significant weakness in enforcement.

1. No inspections were undertaken on district range activities, nor is range C&E separate from range program functions within the district organization. Consequently, there is a lack of effective C&E for range practices. Since the audit, the district has implemented a reorganized C&E program, as part of its overall restructuring with reduced staffing. C&E for range practices will be conducted by C&E staff and not by range program staff.

2. There is a lack of effective C&E on activities conducted in relation to district manager obligations. Except for silviculture, which is monitored by regional silviculture staff, no inspections or other C&E activities are conducted for obligations such as meeting Code requirements in small business road construction, where the district constructs the roads rather than the licensee. This weakness will be partially addressed by MOF restructuring its small business program, which will move the program out of the district manager's direct responsibility. This will allow the district to conduct C&E on activities undertaken by the new timber sale program in an independent manner. However, this change will not address effective C&E on other district manager obligations, such as maintaining forest service roads.

The audit also identified a few areas where district processes could be enhanced to provide greater assurance of Code compliance. These opportunities were not considered significant weaknesses in the ministry's enforcement of the Code, and are discussed throughout Section 4.0. For example, inspections did not focus on key resource features within and immediately adjacent to cutblocks. In addition, inspectors did not follow up on all potential and actual non-compliances and document them appropriately in subsequent inspection reports.

The inspection framework used during the audit period was not complete and was not conducive to tracking potential or actual non-compliances to help ensure appropriate follow-up. The ministry's new inspection tracking system, CIMS (compliance information management system), implemented subsequent to the field audit, enables improved tracking of incidents and associated compliance actions. C&E staff will have the tools to better track compliance actions such as issuing written instructions for incidents where enforcement actions, such as issuing tickets, may not be warranted.

The ministry has still not identified a way to usefully report on its performance in relation to C&E objectives.

Ministry of Water, Land and Air Protection

Although the Ministry of Water, Land and Air Protection has the same authority for Code enforcement as MOF, it is not aware of what forest activities are occurring or when they are occurring. MWLAP has not completed its framework for Code enforcement and is not currently using its enforcement authority under the Code.

MWLAP does not conduct inspections of forest practices, did not have input into the MOF's inspection processes, was not informed of the results of MOF's inspections, and did not attempt to use its enforcement authority under the Code. MWLAP's efforts were primarily focused on review of operational plans, assistance with policy development, and provision of comments to licensees and MOF to help adequately manage and conserve forest resources.

While MWLAP provides sufficient input into operational plans and referrals, there is insufficient information available to MWLAP about the results of forest and range practices on fish and wildlife resources. While no specific issues were identified within the audit area, this constitutes a significant gap in government's enforcement of the Code.

4.0 Findings And Conclusions

The detailed findings and conclusions of the audit are set out in this section, by assessment criterion.

4.1 Audit criterion - Government agencies obtain, use and maintain adequate information on the forest activities subject to compliance and enforcement.

In order to undertake C&E activities with any assurance as to whether the right activities are being examined, the ministries must be informed of the forest activities taking place in the district. If the agencies do not know about all harvesting, road and silviculture activities, there is little chance that the activities will be inspected, and there is an increased chance that non-compliance with the Code will not be identified and addressed.

The audit assessed whether government has systems in place to obtain, use and maintain sufficient information about forest activities in order to enable an effective program of periodic inspections.

Major licensees are required, by cutting permit (CP) and road permit (RP) conditions, to notify the MOF district office of confirmed dates of commencement of operations. Notifications are usually emailed or faxed. Woodlot licence holders are also required by CP, RP and "letter permit" conditions to notify the district office of commencement dates for harvesting and road operations. In these cases, notifications are often oral. Small business program licensees are also required by licence and RP conditions to notify the district office of commencement dates. They also participate in a pre-work conference designed to review licensee obligations before commencement of operations. For road construction and harvesting operations, most operators give forest officials information on their plans through regular weekly, oral communication.

The C&E supervisor maintains a ledger to track the receipt of notification information. The ledger is maintained and is an effective tool to monitor licensee activities and achievement of forest official inspection targets. In addition, forest officials maintain their own ledgers of licensee activities. Although not standardized, all systems observed appear to sufficiently enable inspection planning from notifications and operator updates.

Although not yet underway during most of the audit period, large-scale exemptions from site-level plans (silviculture prescriptions[ii] and site plans), for beetle timber harvesting up to 5000 cubic metres or 15 hectare clearcuts, are enabled under the *Bark Beetle Regulation*. Harvest activities under these provisions are not subject to notification requirements, potentially resulting in large amounts of timber harvested by major licensees without inspection. Major licensees have been voluntarily supplying notifications of activities under this regulation to the district. However, the district should require notifications as a condition of mountain pine beetle cutting authorities to ensure that forest officials are informed about these activities.

Major and woodlot licensees report on silviculture activities, such as site preparation and planting, subsequent to completion, as required by legislation. No notification is provided to forest officials to enable inspection of these activities while they are being carried out. However, forest officials can do inspections afterward, in conjunction with inspections to assess achievement of regeneration and free-growing requirements. An electronic silviculture information system is used by the district to generate reports on licensee cutblocks with regeneration and free-growing status due, as a basis to verify that information was submitted or that the licensee is not in compliance with silviculture milestone obligations.

District range staff have a program plan that records the general range staff activities by month, including range improvement checks and range inspections, but these are not specific to the individual tenures. Turnout and turn-in dates are established in range use plans and available in reports generated by MOF's forest tenure administration system (FTAS). Range licensees do not inform MOF staff of their activities, except to amend the turnout date. Since the tenures are consistent from year to year, range staff are generally aware of where cattle are authorized to be at a given time, which is only approximately defined in most range use plans.

Conclusions

The district generally has adequate knowledge of the locations and timing of forest activities.

There is a potential weakness with respect to harvest activities under the *Bark Beetle Regulation*. If these harvest activities are not subject to notification requirements, major licensees could harvest large amounts of timber without the opportunity for MOF inspection. The district has the ability to require notifications by making it a contractual obligation and, in the absence of a legislated notification requirement, should do so.

MWLAP is not informed of the locations and timing of forest activities.

4.2 Audit criterion - Government agencies have an effective way of identifying risks associated with forest activities and utilizing risk in inspection planning.

Once government agencies have determined the forest activities eligible for inspection, they need an effective method of determining where to place their inspection efforts. Because they cannot inspect all forest activities conducted by all licensees, they need a way to allocate their resources to minimize the risk that impacts to the environment are not detected.

The audit assessed whether government has an effective process for identifying risk, and uses information on risk to target inspection efforts to areas with higher risk of environmental impact from forest activities.

Risk Assessment

MOF implemented updated compliance procedures in April 2001. These procedures establish consistent requirements for risk assessment and inspection planning for Code activities.

A formal risk-assessment process is used for cutblocks and roads constructed by major licensees. The same risk-assessment process is used for small business cutblocks, including in-block roads constructed by operators (there is not a separate risk rating for small business roads). Risk ratings consider relevant risk factors, including past performance, inherent risk such as terrain, and geographic isolation. Cutblock amendments and salvage cutblocks have required inspections added on rather than separate risk assessments.

For woodlot licence harvesting and roads, no formal risk assessments were done during the audit period.

No formal risk-assessment process was undertaken for range activities prior to April 2002.

Risk assessments are completed for cutblocks with free growing due, but not for other silviculture activities or regeneration obligations. Regeneration delay is generally regarded as low risk since most cutblocks are planted within two years after harvest. For cutblocks with free growing due, the ministry compliance procedures of April 2001 are supplemented using local risk criteria.

Inspection Planning

In planning inspections for major licence and small business harvest cutblocks, risk drives the minimum number of planned inspections. Prior to April 2002, a minimum of two inspections was planned for high-risk and at least one for low-risk cutblocks. There was no documented inspection plan in place prior to April 2002. For major licences and small business, there is partial compliance with the monitoring plan in that cutblocks receive at least the planned number of inspections.

The April 2002 district inspection plan, approved by the regional manager, comprehensively sets requirements for inspections by risk (site priority) for all relevant forest activities. This plan was just beginning to be implemented at the time of the field audit in May, so could not be tested for most activities.

Prior to April 2002, there is no evidence of specific inspection planning for range activities.

Conclusions

The Ministry of Forests has an effective way of identifying risks associated with forest activities and it utilizes this information in inspection planning. The district has largely met this criterion, except for woodlot and range activities. Improvement is required for these activities.

MWLAP does not assess risk associated with forest activities in a structured way, and no inspection planning is done.

4.3 Audit criterion - Government agencies conduct a sufficient number of inspections, in a fair, objective and effective way, and accurately record and report results.

The effective conduct of inspections enables government to assess the results of forest practices, identify potential contraventions of the Code and initiate compliance and enforcement actions. Weaknesses in inspections reduce government's ability to appropriately enforce the Code.

The audit assessed whether government's inspections covered a reasonable proportion of persons engaged in forest practices, significant resource features (fish streams, designated ungulate winter range areas, etc.) and different geographic areas. The audit also assessed whether the number of inspections conducted was sufficient, and whether the inspections were properly planned and performed.

Forest officials have the necessary authority under the Code to perform enforcement duties. Forest officials maintain field files that include legal and operational documents associated with cutting permit and road permit operations. Forest officials do not prepare plans for inspections and licensees are not formally notified prior to inspections.

<u>Harvesting and Roads</u>

The district's inspection program for harvesting and roads adheres to the ministry's compliance procedures of April 2001. Small business cutblock inspections often include inspections of roads built by small business licensees. Forest officials responsible for major licences and woodlots have substantial C&E experience, and most have been in place since the Code came into force. Forest officials responsible for the small business program generally have less C&E experience. This is a potential weakness because staff with less C&E experience are responsible for inspecting the highest-risk activities identified in the 2002 district inspection plan.

Number of Inspections

A sufficient number of inspections was undertaken for major licence, small business and woodlot licence harvesting and roads. At least the prescribed number of inspections was carried out on nearly every cutblock. There were no high-priority cutblocks or roads in the audit area. For one major licence, moderate-priority cutblocks received a higher proportion of inspections than low-priority cutblocks. However, for other major licences there were the same number or more inspections of low-priority cutblocks than of moderate-priority cutblocks. For small business, low-priority cutblocks also received a higher proportion of inspections than did moderate-priority cutblocks. Thus, it is not apparent that risk drives the number of inspections completed. However, several factors prevented a thorough assessment , including the fact that more than one risk-rating system was in use during the audit period. The audit was able to conclude that the minimum number of inspections was completed for cutblocks, but was unable to conclude that risk drives the number of inspections completed, as called for in the plan.

In some small business cases, several inspections were done on the same cutblock after primary harvesting was completed, suggesting that disproportionate inspection attention is placed on operator clean-up obligations. In the district's view, the extra attention is warranted because small business activities are considered higher risk than major licence activities, and to ensure that logging debris piles are disposed of quickly to limit the spread of mountain pine beetle.

Quality of Inspections

Based on the review of inspection files and forest official field practices, inspections are generally conducted in a fair and objective way. However, key resource features within cutblocks, and adjacent features that may be affected by operations, are usually not a primary focus in inspections. This was tested during the field reviews with forest officials. A total of 13 cutblocks and roads were examined during two field days and, through discussion, the auditors confirmed only three sites where key resource features were checked. The 2002 plan quite appropriately states: "focus on identified risk features" for harvesting and road inspections.

There is some verification of silviculture prescription accuracy regarding key resource features during inspections. For example, during an inspection, a forest official could check the width of a stream and its associated riparian area adjacent to active harvesting to confirm that appropriate protection measures have been prescribed and undertaken. The audit found that this is occasionally done for major licence inspections but not for small business, where there has been a simple acceptance of the accuracy of the silviculture prescription. It is important for C&E inspectors to field verify aspects of silviculture prescription accuracy in relation to key features wherever practical, as a part of the inspection, and to take appropriate action where inaccuracies are discovered.

These shortcomings result in an increased risk of missing actual and potential non-compliances associated with key resource features, and are practices requiring improvement.

Overall, there are few Code non-compliances or other problems noted in inspection reports. This is reasonably consistent with the field results of the compliance audits. The auditors, based on the information contained in inspection reports, identified 15 instances of potential non-compliance. Of the 15, forest officials categorized 7 as non-compliance, which was appropriate, and 8 as in compliance. In at least two of the eight cases—a lack of fire tools on one site and a plugged culvert—the occurrences should have been recorded as non-compliances, with appropriate follow-up. The remaining six were not unreasonable, based on available information.

Only 1 of the 15 instances—a trespass that had been self-reported by the licensee—was recorded in MOF's tracking system for enforcement actions (ERA). Ministry policy, in effect during the audit, directs forest officials to record non-compliances and any incidents that at least warrant a follow-up inspection in ERA, and not to use ERA to track trivial or minor incidents. Based on this policy, at least 2 of the remaining 14 instances (the lack of fire tools on one site and the plugged culvert) should also have been entered into ERA and tracked, as they

were likely contraventions of the Code. There is insufficient information in the inspection reports to determine which of the other non-compliances should also have been recorded in ERA. By not tracking such incidents, there is a risk that problems will not be adequately followed-up, either by the licensee or the forest official.

There was a lack of documented follow-up in all but 3 of the 15 instances of potential non-compliance identified. One instance of well-documented follow-up was noted. However, in most cases there is no documented evidence of follow-up to problems identified in inspections. In one case relating to a potential non-compliance for fire equipment, a promised follow-up inspection was not done. The lack of documented follow-up is an area requiring improvement.

The new ministry inspection tracking system, CIMS, which had not yet been implemented at the time of the audit, enables improved tracking of incidents and associated compliance actions. Only those incidents that result in enforcement actions are to be entered into ERA. This new system should help reduce the risk of inadequate follow-up.

Documentation of Inspections

Forest officials used various inspection formats during the audit period, including the interim electronic inspection form, compliance inspection data entry and reporting (CIDER), for harvesting inspections. The CIMS framework is also electronic.

Inspections are documented in various ways in the field, such as making notations in notebooks and on loose paper. Information is then transferred to the electronic format back in the office. Because information must be transferred from field notes and maps, there is a risk that some inspection information is not transferred and, consequently, is lost to permanent records. Inspection records are kept in operational cutting permit files (permanent) and the forest official's field file (temporary). A copy is also sent to the C&E supervisor as a quality control action.

Inspections recorded for woodlot licences show thorough documentation with detailed notations, suggesting a high standard of inspection.

Silviculture

MOF's April 2001 compliance procedures include silviculture inspection procedures. During the audit period, inspections were undertaken only on cutblocks declared free growing by major licence holders, and none were performed for cutblocks with regeneration delay or other silviculture activities such as site preparation. This is consistent with the 2002 district inspection plan, which rates free-growing inspections as 9th, regeneration delay cutblocks as 17th (out of 18 inspection activities listed), and does not include inspections for major licence silviculture activities such as site preparation or brushing.

Forest officials inspected 4 of 11 major licence cutblocks, identified in the compliance audits as having free-growing status due during the audit period. Based on the available information, three of those were risk rated, all as low risk. The district met its stated objective of field

checking 25 percent of free-growing cutblocks (within the audit area), but there is no clear indication that cutblocks were selected for inspection in accordance with risk ratings. This may be due to the small number of free-growing cutblocks within the audit area and period. The audit was unable to determine if risk drives inspections in C&E work for silviculture.

Range Inspections

No inspections of range practices were done in the audit area and period. Although there are no high or very high-risk rated tenures (9 moderate and 2 low in the audit area—compared with 10 very high, 24 high, 38 moderate and 20 low for the district), this is a significant weakness. The 2002 district inspection plan prescribes inspections for moderate risk as "random inspection based on past compliance performance." However, since the assessment of compliance performance depends on conducting at least some inspections, there is a residual risk of inadequate C&E of range practices.

District Manager Obligations

District manager obligations primarily include road construction and silviculture activities under the small business program, maintenance of forest service roads, and backlog silviculture. Regional C&E staff indicate that, although it is part of the regional mandate, they do not conduct inspections of district manager obligations unless the information provided by districts indicates there are concerns. This is the result of a conscious decision by region management to use regional resources on other priorities. Regional engineering staff also do not inspect district engineering activities. Regional silviculture staff monitor district silviculture obligations to meet regeneration delay and free growing. During the audit period, regional silviculture staff inspected several sites in the Quesnel district, although none were within the audit area.

For district manager obligations, the district maintains a ledger of non-compliances and submits it periodically to regional C&E staff. There were no reported non-compliances within the audit area and period. However, with the exception of silviculture, regional staff rely on the district C&E staff to monitor work done by the district to meet district manager obligations. The district C&E staff do not inspect these activities. Consequently, there is no independent inspection of these activities, or verification of compliance reports submitted by the district C&E program to regional C&E staff. This was a significant weakness during the audit period. This weakness will be partially addressed by MOF restructuring its small business program and moving it out of the district manager's direct responsibility. This will allow the district to conduct C&E on activities undertaken by the new timber sale program in an independent manner.

Conclusions

The district has achieved this criterion for harvesting and roads. Improvement is required in the following areas:

- Key resource features within cutblocks and adjacent features should be a primary focus in inspections.
- Instances of potential non-compliance should be tracked as a means of ensuring appropriate follow-up action.
- Follow-up on all potential and actual non-compliances should be undertaken and documented appropriately in subsequent inspection reports.

The district has partially achieved this criterion for silviculture activities and obligations.

The district has not achieved this criterion for range activities.

Except for silviculture obligations, MOF has not achieved this criterion for district manager obligations.

MWLAP did not conduct compliance inspections in the area audited. Prior to the audit, in 2000, MWLAP staff carried out a district-wide examination of fish-stream crossings constructed since June 1995, the date the Code came into effect. Several of the crossings were within the audit area. This was an appropriate theme-based review.

4.4 Audit criterion - Investigations are conducted in all applicable situations and only when warranted. They are performed in a fair, objective and consistent way, and are accurately recorded and reported.

Investigations are the primary tool for an in-depth examination pursuant to identifying a suspected or alleged contravention of the Code. In many cases, investigations will result from completion of an inspection, but they also can be initiated through other means, such as public complaints. The audit assessed whether investigations, and any subsequent determinations, were carried out in all applicable situations, conducted in a fair, objective and reasonable way, and were accurately recorded and reported.

There was one investigation in the audit area within the audit period. Because the case was still open, MOF did not make the file available for audit. The ERA record for incidents commencing January 1, 2001, through the audit period, identified only the above incident in the audit area. This incident was self-reported by the licensee.

Conclusions

There is an insufficient population to evaluate the district's performance relating to investigations and determinations.

MWLAP staff undertook no Code investigations or determinations in the audit area.

4.5 Audit criterion - Agencies establish, through operational plan approval and related processes, expectations for forest practices, which are enforceable, and in accordance with the Code.

Through operational plan approvals and related processes, district managers and designated environment officials establish rules and expectations for licensee performance which can have a major influence on licensee behavior. It is important that such expectations are correctly established in accordance with the Code.

The audit assessed whether prescriptions and provisions in approved operational plans (forest development plans[iii] and silviculture prescriptions) were clear, unambiguous, enforceable and in accordance with the significant requirements of the Code.

Prescriptions and site plans were generally found to be clear and unambiguous. Very minor exceptions were noted. The prescriptions and provisions in approved site plans were enforceable as they were sufficiently specific and measurable.

Some range use plans within the audit area contained reasonably enforceable conditions. However, many of the range use plans contained poorly defined terms or unclear requirements, especially those related to grazing schedules. Some improvement is needed to incorporate conditions that are more enforceable.

There is a timber supply area (TSA) steering committee at which agency staff and licensees address issues and expectations.

MWLAP staff have assisted the district in developing district manager policies, often jointly signed, that guide Code activities (e.g., guidelines for Douglas-fir management in the Quesnel Forest District) and provide direct guidance (e.g., timing windows and measures for instream works). MWLAP staff also had, through the CCLUP, a direct role in joint approval of operational plans within applicable areas.

Conclusions

The district has established clear and enforceable expectations for forest practices.

Range practice requirements require improvement to make them more clear and enforceable.

MWLAP has provided effective support in government's achievement of this criterion.

4.6 Audit criterion – There should be organizational structures, policies and processes that contribute to and support appropriate enforcement of the Code

Effective organizational structure, policy, management direction and oversight are necessary in order for government agencies to appropriately enforce the Code. The audit assessed whether

- the organizational model adopted by the agencies supports effective enforcement of the Code;
- sufficient policy direction exists to guide and support agencies' C&E programs;
- clear and reasonable expectations are set for the operation of the C&E function; and
- the activities of the agencies are adequately monitored and supervised.

Organizational Structure

To the extent that the present MOF organization enables a separation of the C&E function from program management, the district has done so, with the exception of the range program. In particular, there is a clear separation between small business program planning and C&E. C&E staff do not provide appreciable supervision of small business forest practices.

Range C&E is not separated from program management. Since the audit, the district has implemented a reorganized C&E program, as part of its overall restructuring with reduced staffing. C&E staff, rather than range program staff, will now conduct C&E duties for range practices. This is appropriate.

The ministry does not have a functional C&E organization to monitor and report on activities related to district manager obligations. District manager obligations primarily include road construction and silviculture activities under the small business program, maintenance of forest service roads, and backlog silviculture. While the problem with district-built roads in the small business program is being resolved through restructuring, ongoing C&E is required for obligations such as maintaining forest service roads. There is a government non-compliance reporting procedure in place for the Cariboo Region, but other than for silviculture, no one is inspecting these types of activities, either at the district or regional level.

The organizational model has minor inefficiencies in that C&E workload for major licences is organized by licensee. This arrangement enables a more sophisticated awareness of the licensees' activities and operating style but can result in travel inefficiencies where different licensees operate close to each other, since it can result in more than one inspector working in the same general area at the same time.

There appears to be a reasonable level of human, physical and financial resources devoted to C&E functions. Staff performing C&E functions are designated as forest officials under the Code and they have been assigned the proper authority. Specialist assistance from regional staff is available to district C&E staff when required, although it is rarely used as district staff are generally experienced and knowledgeable.

Policy and Management Direction

Provincial C&E policy is used, and the region and district have developed policies and standard operating procedures to provide further guidance. Policies are reasonably complete and communicated to C&E staff. Specific targets are set in the district inspection plans.

C&E authority, responsibility and accountability is clearly defined and documented in the organization chart and through job descriptions. Expectations are set primarily through informal staff discussions and meetings.

Staffing

C&E supervisors and staff have training needs identified and training plans incorporated into their performance management plans. Interviews and sampling of training records provided sufficient evidence that staff have received adequate C&E training. Overall, C&E staff have sufficient expertise and training, although small business staff generally have less experience in C&E work. The audit did not identify any instances where deficient training or experience led to inappropriate or ineffective C&E of the Code.

C&E staff receive the information and resources necessary to fulfill their assigned responsibilities. Supervisors examine consistency through a 100 percent check of inspection reports. Field visits with C&E staff by C&E supervisors and managers are infrequent and may not be adequate to provide effective direction and ensure inspection consistency.

Conclusions

Except for range and district manager obligations, the organizational model adopted in the district is complete and appropriate for enforcement of the Code. Changes to the district organization should address the problem with range C&E.

The ministry does not have a functional C&E organization to monitor and report on activities related to district manager obligations.

Sufficient policy and procedural direction exists, authority and responsibility within the C&E program are defined and understood, and district management has established clear and reasonable expectations for the operation of the C&E program.

Minimum training requirements for staff involved in the C&E program have been identified and applied.

Forest officials' inspection records are adequately monitored but more direct supervision of C&E fieldwork is needed.

There are no MWLAP policies in place for Code C&E within the audit area. The conservation officer service handles any enforcement activity while habitat protection (now called ecosystem management) staff handle any compliance activity. It was not possible to test the efficacy of this enforcement organization due to the lack of activity in the audit area.

4.7 Audit criterion – The decisions and actions of different parts of government responsible for enforcement of the Code are appropriate and coordinated.

Interaction at the local offices by agencies responsible for enforcing the Code is necessary to ensure that no significant gaps in enforcement arise. The audit assessed whether:

- respective roles, responsibilities and interactions are defined, agreed and documented;
- communication and referral within and between agencies takes place, and is coordinated and effective; and
- there are no significant gaps in enforcement or duplication of agency effort.

MOF and MWLAP have the primary responsibility for Code enforcement in the area audited, as there was no mining activity. MOF takes the lead enforcement role, consistent with its primary responsibility for administration of the Code.

There is an interagency memorandum of understanding (MOU) for the Cariboo Forest Region that is intended to guide roles, responsibilities and interactions among Code agencies. The MOU is not up to date and does not take into account current agency roles and responsibilities and reduced staffing levels.

There were no MWLAP staff located in the district during most of the audit period. However, the former forest ecosystem specialist, a staff member of the Ministry of Sustainable Resource Management since July 2001, has provided ongoing referral assistance on behalf of MWLAP, when requested by MOF or licensee staff. Subsequent to the audit fieldwork, a half-time MWLAP staff member was assigned to the district.

MWLAP does not conduct inspections of forest practices, did not have input into MOF's inspection processes, was usually not informed of the results of MOF's inspections, and did not attempt to use its enforcement authority under the Code. MWLAP's efforts were primarily focused on review of operational plans, assistance with policy development, and providing comments to licensees and to MOF to help adequately manage and conserve forest resources.

Given the ongoing referral assistance, and because the policy framework to address forest resource values is reasonably extensive, the lack of a MWLAP presence in C&E activities within the audit area may not be a serious weakness at this time. However, without MWLAP conducting field inspections to validate the accuracy and appropriateness of site level operational plans for fish, wildlife and water resources, some weakness remains.

In response to the audit, MWLAP stated that its role in inspections and enforcement in the future is still evolving.

Conclusions

The decisions and actions of MOF and MWLAP are not formally coordinated, despite the existing MOU. Improvement is required, such as revising the roles, responsibilities and

interactions by the agencies jointly administering the Code. Because the MOU has not been completely implemented by the agencies and MWLAP has not completed its C&E framework, some weakness remains in the compliance and enforcement of the Code.

While MWLAP provides sufficient input into operational plans and referrals, there is insufficient information available to MWLAP about the results of forest and range practices on fish and wildlife resources. While no specific issues were identified within the audit area, this constitutes a significant gap in government's enforcement of the Code.

4.8 Audit criterion – Reporting systems provide adequate information on agency performance in relation to enforcement objectives.

In order to ensure the effectiveness of the C&E program, agencies need to be able to judge their performance by establishing objectives and intended outcomes, and then measuring performance through the use of performance indicators and reliable reporting systems. The audit assessed whether objectives for enforcement are established and consistent with government direction; and measurable targets or performance indicators are in place and used to evaluate performance in relation to strategic objectives.

MOF's stated objective for the C&E program is to promote compliance with the Code. District management has, to its credit, described specific informal objectives as:

- range—gain compliance but do not enforce
- silviculture—monitor regeneration delay and free-growing obligations with no tolerance on failure to meet free growing
- harvesting—"middle of the road approach," for example C&E staff are authorized to deal directly with unauthorized logging under one truckload without taking it to district management

These enforcement objectives are balanced and reasonable for the audit area. The ministry compliance procedures, the 2001/2002 district business plan reports, and the inspection objectives identified in the 2002 district inspection plan all support achievement of the district's enforcement objectives. However, the ministry still has not identified a way to usefully report on its performance in relation to C&E objectives.

The C&E supervisor tracks performance on C&E inspection goals. C&E goal achievement for all district inspections is reported in the 2001/2002 district business plan quarterly reports, although not in sufficient detail to enable the information to be used to track performance by activity.

The CIDER inspection framework, in use during most of the audit period, does not facilitate reporting for management review or goal reporting. The CIMS framework, not yet implemented during the audit, includes various modules to assist both districts and regions in monitoring and assessing the performance of the C&E program against plans. Review of the CIMS system and its reporting modules confirmed that, once fully implemented, the system

will include functional reporting capabilities for forest officials and ministry managers to monitor and assess program performance.

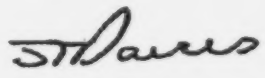
The C&E branch is responsible for assessing the performance of the C&E program as a whole, and reporting results to the public. The results of C&E activities, and achievement of program objectives, are assessed and reported publicly by the ministry, the last period being April 1999 to March 2000. Improvement in the timeliness of these reports is required.

Conclusions

MOF is improving its capability to accurately report on C&E activity. The full implementation of CIMS should complete the ministry's framework for C&E of the Code.

The ministry still has not identified a way to usefully report on its performance in relation to C&E objectives.

Improvement is required by the ministry to publicly report C&E performance in a timely fashion.



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January 31, 2003

[i] A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail, or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.

[ii] A silviculture prescription is a site-specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values, including biological diversity, and produce a free-growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.

[iii] A forest development plan is an operational plan that provides the public and government agencies with information about the location of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources. It must also be consistent with any higher level plans. Site-specific plans are required to be consistent with the forest development plan.

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